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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PIAZZA CORCORAN, GLADYS JOSEFINA

ART UNIT PAPER NUMBER

1733

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,876

Applicant(s)

LIAW, JEFFREY

Examiner

Gladys J Piazza Corcoran

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 16-22 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-12 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 13-15, 23-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

FINAL ACTION

Election/Restrictions

1. Claims 4, 16-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Groups II and III, Species B, there being no allowable generic or linking claim. Election was made **without** traverse in the response filed October 6, 2003.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 26 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 26 recites that the "sealing washer comprises a thin planar member." It is noted that the Specification does recite that the sealing washer is a planar member on page 6, however there is no recitation that the sealing washer is thin. Therefore, while by definition washers are considered to be thin in general, there is no support in the Specification that the particular washer in the invention is thin. Furthermore, as discussed below, it is unclear whether Applicant's recitation of "thin" in the claims is to imply thinner than normal washers or that the

washer is thin, as washers are generally thin. It appears that the recitation of thin is unnecessary and it is suggested to delete "thin" from the claims..

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 26 is unclear by reciting that the "sealing washer comprises a thin planar member." It is noted that the Specification does recite that the sealing washer is a planar member on page 6, however there is no recitation that the sealing washer is thin. Therefore, while by definition washers are considered to be thin in general, it is unclear whether Applicant's recitation of "thin" in the claims is to imply thinner than normal washers or that the washer is thin, as washers are generally thin. The scope of the claims are unclear as it is unknown how thin the washer must be to meet the claims. It appears that the recitation of thin is unnecessary and it is suggested to delete "thin" from the claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 5, 6, 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art in view of Hartley (US Patent No. 2,512,426).

The Admitted Prior Art discloses it is known to provide a sealing washer which when engaged with a heated surface bonds to such surface (Specification page 2), bonding a fastener (metal stud) to a first surface of a plate of metal by welding the head of the stud to a surface of the plate (Specification page 1). Subsequently, a sealing washer is urged onto the second surface and bonding the washer to the second surface through induction heating of the second surface and pressure on the washer against the second surface (Specification page 2).

As to the limitation that the sealing washer is urged onto the second surface "while still heated from the fastener bonding step", Hartley discloses it is known, in the art of bonding fasteners and sealing washers to plates, to secure a sealing washer (5) and a fastener such as a stud or bolt (10) to a sheet by simultaneously heating the components so as to reduce the number of manufacturing steps (column 1, lines 29-37; column 4, lines 55-75). For example, Hartley discloses one example where a bolt 10, and a washer 5 on the opposite side of a plate (see figure 4), are heated simultaneously in order to bond both the bolt and the washer in a reduced number of steps (column 2, line 53 to column 3, line 8). Hartley additionally discloses an example where a sealing material, on a side of a plate opposite the side of a plate the head of a fastener is bonding to, is heated by the action of heating the head of the fastener and the shank of the fastener conducting the heat to the opposite side of the plate (figure 5, column 3, lines 9-24). Consequently, it would have been obvious to one of ordinary skill in the art

Art Unit: 1733

at the time of the invention, practicing the invention of securing a fastener and a washer to a sheet in two separate steps as disclosed by the Admitted Prior Art, to perform the steps simultaneously such that the heat from the step of bonding the fastener to the first side of the sheet also heats the second surface of the sheet in order to bond the washer in order to reduce the number of manufacture steps, time to perform the method, and energy spent performing the method as shown by Hartley.

As to claim 2, the metal sheet in the Admitted Prior Art has an opening there through, the fastener has a head and is bonded to the first surface of the metal sheet about an opening and the washer is bonded to a second surface the sheet about the opening. As to claim 3, the fastener in the Admitted Prior Art is a stud with a shank extending from the head through the opening and the sheet. As to claim 5, the stud is bonded to the sheet by welding. As to the method of bonding by soldering or brazing, these are considered well known equivalent alternatives in the art to welding and is only dependent upon the particular materials used. Only the expected results would be attained by using such well known methods. It is further noted that Hartley discloses soldering fasteners to the sheet. (It is noted that Applicant has not traversed the well known statement, therefore such is considered acquiesced by Applicant to be Admitted Prior Art (see MPEP § 2144.03)).

As to claim 6, although the admitted prior art does not specify the particular types of welding used, it is considered well known and conventional in the art to weld studs to metal sheets by resistance or drawn-arc welding. Only the expected results would be attained. (It is noted that Applicant has not traversed the well known statement,

Art Unit: 1733

therefore such is considered acquiesced by Applicant to be Admitted Prior Art (see MPEP § 2144.03)).

As to claim 23, the Admitted Prior Art discloses the limitations as discussed above in reference to claims 1-3, in addition the washer in the Admitted Prior Art is considered to have a hole there through by definition and the sealing washer is secured to the second surface with the hole of the washer in alignment with the opening and the shank of the stud extending through the hole of the washer (as is also considered conventional). As to claims 24 and 25, these limitations are shown as discussed in reference to claims 5 and 6 above. As to claim 26, the washer in the Admitted Prior Art is considered to be a thin planar member with sealing surfaces on both sides, where one sealing surface is bonded to the second surface of the sheet and the other sealing surface directed away from the second surface of the sheet. As to claim 27, the Admitted Prior Art discloses forming the sealing washer of materials capable of being compressed to form seals with another element (Specification page 1 and page 14). As to claim 28, the Admitted Prior Art discloses connecting the connecting plate to another element with the stud with the sealing washer sandwiched between the second surface of the metal sheet and a surface of another element forming a seal there between (Specification, page 1).

9. Claims 7, 8, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art in view of Hartley as applied to claim 2 above, and further in view of Regle et al (US Patent No. 2,957,237), Hurst et al. (US Patent No. 3,574,028), and/or Futagawa (US Patent No. 4,950,347).

The Admitted Prior Art discloses welding the stud to the sheet but does not disclose the particular apparatus for the heating of the stud. It is noted the Hartley discloses using a tool with a socket for heating the head portion of the stud with another tool on the opposite side of the sheet, however this tool is adapted to hold a nut which is not used in the method of the Admitted Prior Art. Thus one of ordinary skill in the art would recognize using an appropriate tool to heat the other surface of the sheet (other than the side with the head of the stud) that holds the washer against the sheet. One of ordinary skill in the art would further recognize that the tool should provide a cavity or socket in order to hold the washer in position. For example, it is well known in the art to provide tools with cavities or sockets that conform to the shape of the articles being heated during welding. Regle shows one example of a tool 26 with a cavity 30 in order to provide the proper shape of the end article when heating metal members. Hurst discloses another example of a tool for heating articles for welding with cavities for holding the articles in position (512). Futagawa also discloses tools used in heating articles for welding where the tools for holding the articles in position are molds in the shape of the articles. It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of welding fasteners and washers to metal sheets as shown by the admitted prior art and Hartley by urging the washer towards the sheet with a tool that has a face with a socket in order to hold the washer in position as is considered well known in the bonding arts and further exemplified by Regle, Hurst, and/or Futagawa particularly since Hartley discloses a similar tool for the head end of the stud.

As to claim 8, the sealing washer in the Admitted Prior Art seals the opening after being heated and bonded to the sheet, therefore the washer is considered to be compressible with a thickness when uncompressed greater than the thickness when compressed. The Admitted Prior Art additionally discloses using compressible materials for the washer (Specification page 14). It would have been well within the purview of one of ordinary skill in the art to provide the socket in the washer holder with a depth that corresponds to the depth of the end product with the washer compressed against the sheet, only the expected results would be attained. It is noted that the tool 12 in Hartley appears to have a socket depth less than the thickness of the head that it holds.

As to claim 13, the admitted prior art does not specifically disclose the apparatus for welding, but as discussed above, it is well known in the art to heat articles for welding with tools that have electrode ends that hold each end of the articles to be welded, in particular with electrical resistance welding. See for example the electrodes in the references Hartley, Regle, Hurst, and Futagawa as discussed above. It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of welding the stud and fastener to the sheet as shown in the Admitted Prior Art and Hartley with electrodes for resistance weld heating the parts as is well known in the art and further exemplified by Hartley, Regle, Hurst, and Futagawa, only the expected results would be attained.

As to claim 14, the relationship between the fastener, sheet and washer is the same as the Admitted Prior Art and as discussed above, the electrodes would engage

Art Unit: 1733

the fastener and the washer as is well known in the art and exemplified by the references above. As to claim 15, as discussed above, it is well known in the art to provide tools such as electrodes for heating articles for bonding with a cavity or socket to receive the parts to be bonded as exemplified by the references above, only the expected results would be attained.

(It is noted that Applicant has not traversed the well known statements, therefore such is considered acquiesced by Applicant to be Admitted Prior Art (see MPEP § 2144.03)).

Allowable Subject Matter

10. Claims 9-12 are allowed for the reasons as set forth in the previous Office Action, filed December 5, 2003.

Response to Arguments

11. Applicant's arguments filed on June 4, 2004 have been fully considered but they are not persuasive.

Applicant argues on page 11 that in Hartley, there is only interaction with one of the upper and lower surfaces of the stock and not both and that the sealing washer in the application is provided on the second surface of the sheet and is not sandwiched between the undersurface of the head of the stud and the opposed first surface of the sheet as shown in Hartley. As discussed above, the Admitted Prior Art discloses bonding a sealing washer to the second surface of a metal sheet where a fastener is bonded to the first surface of the sheet. Additionally, the embodiments of figures 4 and 5 of Hartley both disclose "interaction" between both surfaces of the stock. The

Art Unit: 1733

reference Hartley is cited to show it is known in the art to use simultaneous heating action to bond both surfaces or two "items" to a sheet when bonding fasteners and washers to sheets. One of ordinary skill in the art at the time of the invention practicing the method of bonding the fastener and the washer to the sheet in the Admitted Prior Art in two separate heating steps would readily appreciate and recognize bonding both the fastener and the sealing washer simultaneously in view of the teachings of Hartley.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1733

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gladys J Piazza Corcoran whose telephone number is (571) 272-1214 until December 18, 2003 and (571) 272-1214 afterwards. The examiner can normally be reached on M-F 8am-5:30pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1700.


Gladys J Piazza Corcoran
Primary Examiner
Art Unit 1733

GJPC